CLAIMS

[0087] What is claimed is:

1. An apparatus comprising:

   a demodulator to demodulate a received signal by selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between said received signal and said channel-influenced codeword.

2. The apparatus of claim 1 wherein said demodulator is able to determine said proximity relation by calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword.

3. The apparatus of claim 1 comprising an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples.

4. The apparatus of claim 3 wherein said filter comprises a finite impulse response matched filter.

5. The apparatus of claim 1 comprising a decoder to select said demodulated codeword out of a set of possible codewords, based on a filtered signal and an energy-related function of said channel-influenced codeword.

6. The apparatus of claim 5 comprising:

   a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword; and

   an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples,

   wherein said filtered signal comprises a combination of said interference and an output of said filter.

7. The apparatus of claim 5 wherein said decoder comprises a fast walsh transform correlator.

8. The apparatus of claim 1 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

9. A system comprising:

a first communication device to transmit a signal through a communication channel; and

a second communication device able to receive said signal, said second device comprises a demodulator to demodulate a received signal by selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between said received signal and said channel-influenced codeword.

10. The system of claim 9 wherein said demodulator is able to determine said proximity relation by calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword.

11. The system of claim 9 wherein said second device comprises an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples.

12. The system of claim 11 wherein said filter comprises a finite impulse response matched filter.

13. The system of claim 9 wherein said second device comprises a decoder to select said demodulated codeword out of a set of possible codewords, based on a filtered signal and an energy-related function of said channel-influenced codeword.

14. The system of claim 13 wherein said second device comprises:

a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword; and

an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples,

wherein said filtered signal comprises a combination of said interference and an output of said filter.

15. The system of claim 13 wherein said decoder comprises a fast walsh transform correlator.

16.The system of claim 9 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

17.A wireless communications device comprising:

An omni-directional antenna able to send and receive signals;

a demodulator to demodulate a received signal by selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between said received signal and said channel-influenced codeword.

18.The wireless communications device of claim 17 wherein said demodulator is able to determine said proximity relation by calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword.

19.The wireless communications device of claim 17 comprising an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples.

20.The wireless communications device of claim 17 wherein said filter comprises a finite impulse response matched filter.

21.The wireless communications device of claim 17 comprising a decoder to select said demodulated codeword out of a set of possible codewords, based on a filtered signal and an energy-related function of said channel-influenced codeword.

22.The wireless communications device of claim 21 comprising:

a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword; and

an intermittent filter to individually sample a received codeword containing sampled symbols of said received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples,

wherein said filtered signal comprises a combination of said interference and an output of said filter.

23.The wireless communications device of claim 21 wherein said decoder comprises a fast walsh transform correlator.

24.The wireless communications device of claim 17 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

25.A method comprising:

selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between a received signal and said channel-influenced codeword.

26.The method of claim 25 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

27.The method of claim 25 comprising calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword to determine said proximity relation.

28.An article comprising a storage medium having stored thereon instructions that, when executed by a processing platform, result in:

selecting a demodulated codeword corresponding to a channel-influenced codeword based on a proximity relation between a received signal and said channel-influenced codeword.

29.The article of claim 28 wherein said channel-influenced codeword comprises a convolution of a channel response over a respective codeword.

30.The article of claim 28 wherein said instructions result in calculating a minimal Euclidian distance between said received signal and said channel-influenced codeword to determine said proximity relation.

31.A demodulator comprising:

an intermittent filter to individually sample a received codeword containing sampled symbols of a received signal, and to calculate a correlation between said received codeword and a sampled channel response containing channel response samples;

a correlator to compute one or more correlation values, corresponding to a correlation between a filtered signal and one or more respective codewords;

a subtractor to subtract an energy-related function from an output of said correlator; and

a selector to select a demodulated codeword corresponding to a maximum value output of said subtractor.

32. The demodulator of claim 31 wherein said filtered signal comprises symbols contained in an output of said filter

33. The demodulator of claim 31 comprising a decision feedback equalizer to calculate an inter symbol interference of said demodulated codeword, wherein said filtered signal comprises a combination of said interference and symbols contained in an output of said filter.

34. The demodulator of claim 31 wherein said intermittent filter comprises a finite impulse response matched filter.

35. The demodulator of claim 31 wherein said correlator comprises a fast walsh transform correlator.